Work Orde	er ID 98971 9:47:45 AM		*980	71*			_		٠ سر	Page 1
Item ID: Revision ID:	D3463-042 Step Weldment Assembly		Accept	*N900	040	100)* s	etup St S		NS1* NS2*
Required Date:	3/27/13 Start Qty: 2.00 3/27/13 Req'd Qty: 2.00	•		Cust Item Customer:						
Reference: Approvals:	Process Plan: <u> </u>	Date: <u>/3-04-01</u>	Tooling: SPC (Y/N):		oate:		F		art *	NR1* NR2*
Sequence ID/ Work Center II	Operation Description	• • ;	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Rejec Num	et Insp.
Draw Nbr	Revision Nbr						-	* * **		2.24
D3463	Rev B									14-01
100	Large Fab		0.00				2			
Large Fab	Memo		0.00							/
Lárge Fab	Weld [*] asso	embly as per dwg D3463 using M125054 M120854	; DT8875							
110	QC9- Inspect visual p	er QSI004- Fusion Welds	0.00							1
*1*1 N* QC Quality Control	. Memo		0.00				_2)\	4-01-2	DAS 9 9-89
										į
*120	QC5- Inspect part con	npleteness to step on W/O	0.00				(T	` '	U-01.2	DAS 9
QC Quality Control	Memo	•	0.00)	<u>'\</u> - <u>V </u> -6) <u> </u>

DQA: Date: **WORK ORDER NON-CONFORMANCE / UPDATE** NCR: Yes / No QA Closed: Date: **AGAINST DEPARTMENT/PROCESS** DISPOSITION Work Order: Skid-tube Crosstube Water Jet Engineering Rework Part No. Machining Small Fab Prod. Eng. Coor. Quality Scrap Thermoforming Finishing Rec/Store/Packaging Other Use-as-is Composite Supplier NCR No. Work Order Update Large Fab Description of work order update Initial Sign & Root Action Chief Eng Verification QC Inspector Qty Description Date Cause Date Step or Non-conformance Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Bending Bend Grain Ovalized Pressure/Forced Centre Not Concentric to O/S BOM/Route Over/Under tolerance Temperature/Cure Hardware Broken/Damaged Weld Cracks Inspection Incomplete Part Incorrect

Instructions Incomplete/Unclear

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Part Moved

Wrong Stock Pulled

Other

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Crushed/Crimped

Inspection Strip in Tube

Torque Waves in Extrusion

Cuffs

Heat Treat

Burrs

Contamination

Countersink

Cut Too Short Drill Holes

Drawing

Finish

Folio

Work Orde		971	·	*989	71*							Page 2
Item ID: Revision ID:	D3463-042			Accept	*N900	040	100) *	Setup	Start	1 7	S1*
Item Name:	Step Weldmer	nt Assembly								Stop	*N	S2*
Start Date:	3/27/13	Start Qty: 2.00	*2*		Cust Item 1	D:						
Required Date:	3/27/13	Req'd Qty: 2.00	*2*		Customer:						•	
Reference:			-									
Approvals:	Process Pla	ın:	Date:	Tooling:	D:	ate:	_		Run	Start	*N	R1*
				SPC (Y/N):	D	ate:				Stop	*N	R2*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rej Qty	-	Reject Number	Insp. Stamp
*130		White Gloss(Ref:4.3.5.2)	199091005 4.3-Steel	0.00				2	Ø	/ //	4.1-à	08 DAS 34
Powder Coating			as indicated on dwg 3346 IE: IPERATURE:	0.00 33 (holes, threads)					,			9-89
140		Wing Walk as per dwg (SI005 4.4 Batch 1/1 17	26 00.591						/	4 1 [1 1
140 HandFinish		Memo		0.00				17		<u> </u>	XL_	<u>(400)</u>

Hand Finishing

DAS 27

150

150

Quality Control

QC3- Inspect Part Finish

Memo

										DQA:	Date:	
NCR: Y	es / No	•			WORK ORDER NON-C		VFOR!	MANCE / UP	DATE		D. A.	
					T					QA Closed:	Date:	
Work Orde	÷.				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
WOIK OIGE	·· —				Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	lo.				Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is		i	noforming	Finishing	4	re/Packaging	Other
NCR N	lo				Work Order Update			Large Fab	Composite		Supplier	
								-				,
Root					ption of work order update		Initial	1	tion	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data						1						
Equip/Tooling	_					Į						
Operator	_											
Material								}				
Setup	_											
Other	_											
Process												
Supplier	_					l						
Training												
Unapproved			<u> </u>		· · · · · · · · · · · · · · · · · · ·	<u>L_</u>				<u> </u>	<u> </u>	
.,						AUI	T CATE	GORY			·············	
Landii	ng Gear			_	General T	_	7			7	[٦ .
	Bendin	•			Bend	<u>_</u>	Grain		<u> </u>	Ovalized	<u> </u>	Pressure/Forced
		Not Conce	ntric to	o/s	BOM/Route	_	Hardwa		<u> </u>	Over/Under		Temperature/Cure
	Cracks				Broken/Damaged	\vdash	-1	ion Incomplete		Part Incorre		Weld
	_	d/Crimped	1	<u></u>	Burrs		1	tions Incomplete/	Unclear	Part Lost/M	_	Wrong Stock Pulled
	Cuffs				Contamination		Mainte		<u> </u>	Part Moved		
	Heat Tr	eat			Countersink		Mislabe	eled		Positioned \	Wrong	7
	Inspect	ion Strin ir	Tuhe		Cut Too Short	I	Misroad	4	1	Power Loss	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

Work Order ID	9897
March-28-13 10:47:45	

00071

Page 3

March-28-13 1	0:47:45 AM		·	905	1 /		5 C J
Item ID: Revision ID:	D3463-042			Accept	*N90004010	O* Setup Start *NS1	*
Item Name:	Step Weldme	nt Assembly				Stop *NS2	*
Start Date:	3/27/13	Start Qty: 2.00	*2*		Cust Item ID:		
Required Date:	: 3/27/13	Req'd Qty: 2.00	*2*		Customer:		
Reference:							
Approvals:	Process Pla	an:	Date:	Tooling:	Date:	Run Start *NR1	*
	QC:		Date:	SPC (Y/N):	Date:	Stop *NR2	*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID Tool # Plan Code	Accept Reject Reject Insp. Qty Qty Number Stam	
160		Identify as per dwg & St	ock Location:	0.00		1 / /	As
160 Packaging		Memo	Sty85A	0.00		14/01/28 2	AS 12 89
Packaging			,				
170		QC21- Final Inspection	· Work Order Release	0.00			
170						MUJ 14-01-28	
QC		Memo		0.00			
Quality Control						(H)1401-28	
						•	

14CN. 165 / 140	NCR:	Yes	/	No
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MODE ODDED NON CONFORMANCE / LIDDATE

DQA: _____ Date: ____

NCR: YE	es / No	·			WORK ORDER NON-C	CONFO	RIVIAINCE / UP	DATE	QA Closed:	Date	:
Nork Order	••				DISPOSITION			AGAINST DE	PARTMENT,	/PROCESS	
Part No					Rework Scrap		Skid-tube Machining	Crosstube Small Fab	1	Water Jet d. Eng. Coor.	Engineering Quality
NCR No	0				Use-as-is Work Order Update] The	rmoforming Large Fab	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other
Root				Descr	iption of work order update	Initial	Ac	ction	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief Er	ng Desc	cription	Date	Verification	QC Inspector
quip/Tooling Operator Material etup Other Process upplier Training											
	1	<u> </u>	<u> </u>		F	AULT CA	TEGORY	· · ·	<u> </u>	1	······································
Landin	g Gear				General						
-	Centre Not Concentric to O/S Cracks Br Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short	Hard Inspe	Grain Hardware Inspection Incomplete Instructions Incomplete/Uncle Maintenance Mislabeled Misread		Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V	ct sissing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other		
-	Ripples i		F	_ -	Drill Holes	Offse					
-		Naves in I		` -	Drawing	\vdash	of Calibration of Sequence				
}		Sequence wist in Tul		-	Finish Folio	\vdash	ide Dimensions				

March-28-13 10:47:44 AM

Work Order ID:

98971

Parent Item:

D3463-042

Parent Item Name:

Step Weldment Assembly

Start Date: 3/27/13

Required Date: 3/27/13

Start Qty: 2.00

Required Qty: 2.00

Component Item ID/ tem Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
38-806		Purchased	No		<u> — — — — — — — — — — — — — — — — — — </u>	100	Each	84.0000	2	i 4			111-01-
S DOWEL PIN 1" LONG										· · · · · · · · · · · · · · · · · · ·			14-01- 181
				Location		Loc Qty	<u>Lo</u>	c Code					101
				ST396		84			-7	7 —			
				1201	119	84			_\	, 			
3453-3		Manufactured	No			100	Each	11.0000	1	2			14-01
evis													14-a
				Location	3.4.2.0	Loc Oty	Lo	c Code	(3)	Į			,
				WA002 1936	びく <u>.</u> 27	11 11			/ \d				
3453-5		Manufactured	No	0.54.	37	100	Each	29.0000	1	2			,
433- 3		Manuractured	110			100	Eddi	29.0000					<u> 14-0</u>
6				<u>Location</u>		Loc Qty	Lo	c Code					<u> 14-</u> 01 J
				WA002		29							1
				8343	38	9							
				971	33	20			1,2	1			
3463-1		Manufactured	No		•	100	Each	7.0000	1	2			111-0
m										```			14-0
				Location	7	Loc Qty	<u>Lo</u>	c Code	1 77	~1			Ź
				WA00# (//)	2184	7			1 d	1			
				8343		1				.			
				8929 9086		4 2							

,

NCD.	V	,	A1 -
NCR:	Yes	/	No

DQA: ____ Date: ____

NCR: Ye	es / No				WORK ORDER NON-	CONFO	RIVIAINCE / UP	DATE	QA Closed:	Date	d ·
Work Orde	ŕ:			,	DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part N					Rework Scrap Use-as-is] -	Skid-tube Machining rmoforming	Crosstube Small Fab Finishing		Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	0	····			Work Order Update		Large Fab	Composite	Nec/Stol	Supplier	
Root				Descri	ption of work order update	Initial	Act	tion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief Er	g Desc	ription	Date	Verification	QC Inspector
Doc/Data	_										
quip/Tooling	_	į									
Operator	_										
Material	_	1									
etup											
Other	_		1								
Process											
Supplier											
raining											
Jnapproved		<u> </u>									
*****						FAULT CA	regory				
Landin	g Gear			_	General	·		_	7	_	-
].	Bending			ļ	Bend	Grain		 	Ovalized	<u> </u>	Pressure/Forced
1	Centre N	ot Conce	ntric to (o/s	BOM/Route	Hard		<u> </u>	Over/Under	<u></u>	Temperature/Cure
	Cracks			<u> </u>	Broken/Damaged	—	ction Incomplete	<u> </u>	Part Incorre	 	Weld
Ļ	Crushed/	'Crimped			Burrs	$\boldsymbol{\vdash}$	ictions Incomplete/	Unclear	Part Lost/Mi	issing	Wrong Stock Pulled
ļ	Cuffs				Contamination		itenance		Part Moved		
	Heat Tre	at			Countersink	Misla	beled		Positioned V		_
ļ	Inspection	-	Tube		Cut Too Short	Misre		L	Power Loss/	Surge	Other
	Ripples in	n Bend			Drill Holes	Offse	t				:
	Torque V	Vaves in E	Extrusio	n [_	Drawing	Out	f Calibration				
	Turning S	Sequence			Finish	Out	of Sequence				
	Wave/Tv	vist in Tul	be		Folio	Outs	de Dimensions				

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March-28-13 10:47:44 AM

Work Order ID: Parent Item: Parent Item Name:	98971 D3463-042 Step Weldment Assembly						Date: 3/27/13 Qty: 2.00		Required Date: 3/27/13 Required Qty: 2.00
D3463-3	Manufactured	No		100	Each	9.0000	1	2	
Step	Manufactured						2		14-01-12
			Location	Loc Qty		Loc Code			14-01-22 JBC
			WA001	7					
			86814 88399	3					
			WA002 9 11/2	2			121		
			78886-	2					
D3463-5 End Cap	Manufactured	No		100	Each	15.0000	2	4	14-01-22
End Cap			Location,	Loc Qty		Loc Code			14-01-32 191
			WA002 197231	15			14	Ī	/
			89329	15				- /	
D3463-7	Manufactured	No		100	Each	9.0000	1	2	14-01-2
Drag Arm			Location	Loc Qty		Loc Code	CANADA P		14-01-2 YBC
			WA001	<u>Loc Qty</u> 4		<u>Loc Code</u>			/30
			88429	2					
			92175	2			21 1 5		
			WA002 TET 961	5 2					
			82308	3					
			1035841				417		

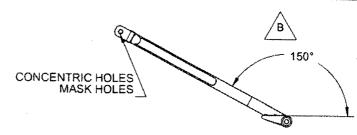
									DQA:	Date:				
NCR: Ye	es / No				WORK ORDER NON-O	CON	VFORI	MANCE / UPDATE						
									QA Closed:	Date:				
Nork Order	••				DISPOSITION		AGAINST DEPARTMENT/PROCESS							
WOIK OIGE	•				Rework	1		Skid-tube Crosstube	7	Water Jet	Engineering			
Part No	٥.				Scrap	1		Machining Small Fab	Pro	d. Eng. Coor.	Quality			
					Use-as-is	1]	i	noforming Finishing	e/Packaging	Other				
NCR N	0.				Work Order Update			Large Fab Composite		Supplier				
Root				1	ption of work order update	ı	nitial	Action	Sign &					
Cause	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Description	Date	Verification	QC Inspector			
oc/Data														
quip/Tooling	_		1											
perator	\dashv													
Material etup	-									:				
Other	_							·						
rocess	1													
upplier	7			l I										
raining	7													
Inapproved														
					F	AUL	T CATE	GORY						
Landin	g Gear				General			·		_	7			
	Bending				Bend	_	Grain		Ovalized	<u> </u>	Pressure/Forced			
	Centre N	lot Conce	ntric to	o/s	BOM/Route	<u> </u>	Hardwa	 -	Over/Under	⊢	Temperature/Cure			
-	Cracks		,	<u> </u>	Broken/Damaged	\vdash	4 '	ion Incomplete	Part Incorred	 	Weld			
-	Crushed	/Crimped		<u> </u>	Burrs	-	4	tions Incomplete/Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled			
-	Cuffs			-	Contamination	-	Mainte Mislabe	i −	Part Moved Positioned V	Vrong				
}	Heat Tre Inspection		Tubo	-	Cut Too Short	\vdash	Misrea		Power Loss/		Other			
ŀ	Ripples i		riube	<u> </u>	Drill Holes	\vdash	Offset	<u></u>		Jui 80	Total			
ŀ	— ' '	Naves in	Extrusio	, H	Drawing		4	Calibration						
Ī				-	Finish	Out of Sequence								
ţ	Turning Sequence Wave/Twist in Tube				Folio									



1,

DESIGN DRAWN BY DART AEROSPACE LTD RF RF HAWKESBURY, ONTARIO, CANADA CHECKED APPROVED # DRAWING NO REV. B D3463 SHEET 1 OF 4 DATE TITLE SCALE 05.12.05 STEP WELDMENT 1:8 Α 05.09.20 **NEW ISSUE** 8 05.12.05 REVISE DIM.; D3463-5 WAS D3463-5F

INSTALL P/N 238-806 DOWEL PIN V/G MASK THREAD AREA 1.045 -



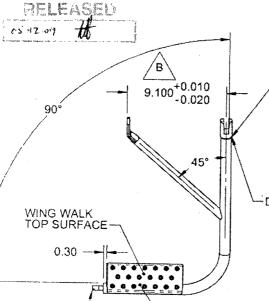
D3453-3 CLEVIS

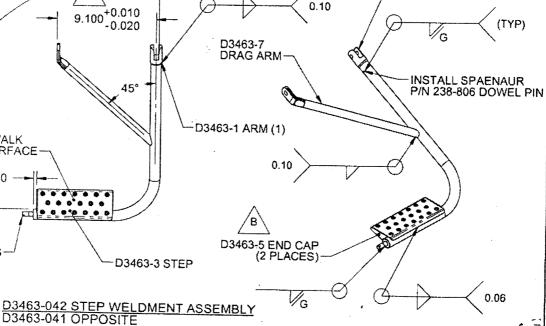
Z 4

2

Q F 68

9





NOTES:

D3453-5 PLUG

- 1) WELD PER DART QSI 004
 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
 BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) ALL DIMENSIONS ARE IN INCHES
 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010
 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

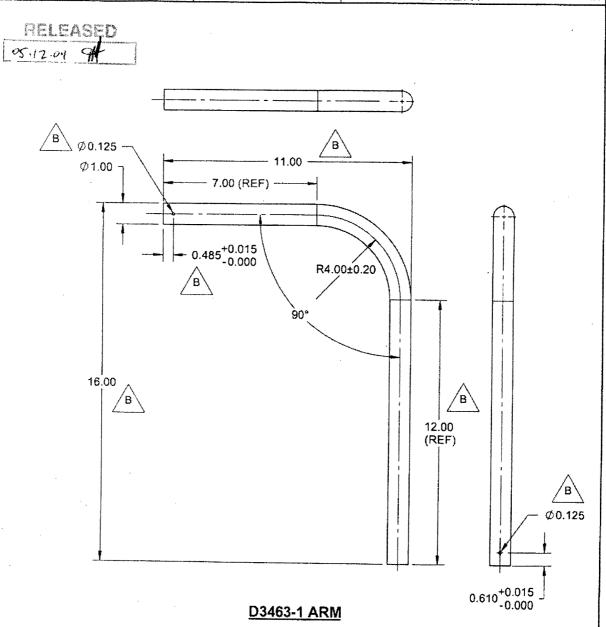
D3463-3 STEP

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DESIGN RF	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	D3463	REV. B SHEET 2 OF 4
05.12.05		STEP WELDMENT	SCALE 1:4



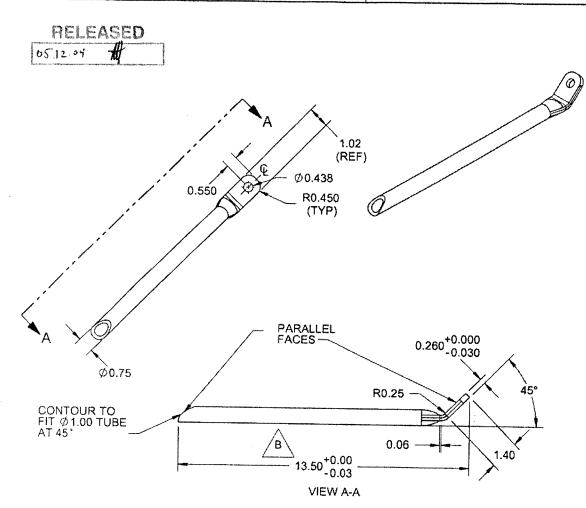
NOTES:

- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR1.000W.120) 2) FINISH: NONE
 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) ALL DIMENSIONS ARE IN INCHES
 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.025

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DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED	APPROVED #	DRAWING NO. D3463	REV. B SHEET 3 OF 4	
05.12.05		STEP WELDMENT	SCALE 1:4	



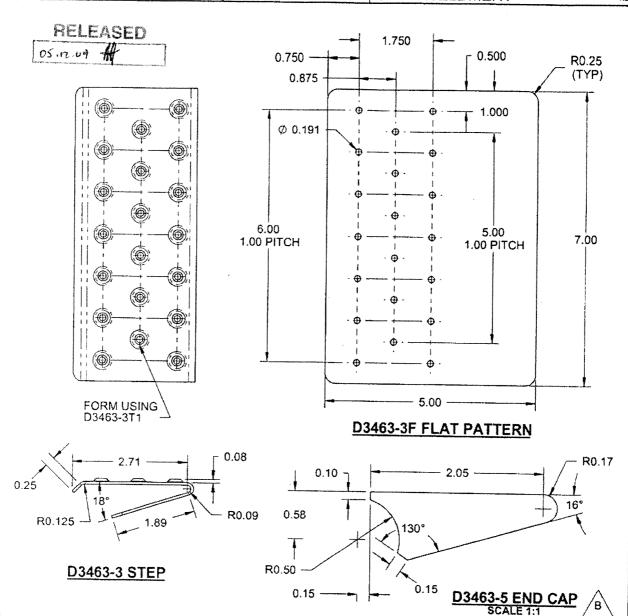
D3463-7 DRAG ARM

NOTES:

- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR0.750W.120) 2) FINISH: NONE 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 4) ALL DIMENSIONS ARE IN INCHES 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010



DESIGN RF	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3463	REV. B SHEET 4 OF 4
05.12.05		STEP WELDMENT	SCALE 1:2



NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET, 0.060 THICK (REF. DART SPEC. M304S16GA) 2) FINISH: NONE 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 4) ALL DIMENSIONS ARE IN INCHES 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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